



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,464	04/23/2007	Andrew Colin Harrison	10400T-000007/US	2551
30593 7590 09/28/2010 HARNESSE, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER HSIAO, JAMES K	
			ART UNIT 3657	PAPER NUMBER
			MAIL DATE 09/28/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,464	Applicant(s) HARRISON, ANDREW COLIN	
	Examiner JAMES K. HSIAO	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/31/2006, 7/17/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 8, 9, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hovance (4817922).

Regarding claim 1, Hovance discloses an air suspension unit consisting of an integrated assembly mountable (141) to an axle of a vehicle, the air suspension unit comprising: an air spring (112); a height sensor (160) for providing a ride height signal; a valve (136); and an electronic controller (22).

Regarding claim 2, Hovance discloses a rubber envelope (130) and a sensor located within the sealed air volume (160, 126, 164, etc, col. 7, lines 13-35).

Regarding claim 3, Hovance discloses a sensor as a linear transducer (col.3, line 12-15).

Regarding claims 4 and 5, see damper 118, located partially inside of the air spring (fig 3).

Regarding claim 8, Hovance discloses at least one air suspension unit mountable to a vehicle as a single integrated unit comprising an air spring (fig 3), a height sensor (160, 126, 164, etc, col. 7, lines 13-35) for providing a ride height signal, a valve (136) and an electronic controller (22); and at least one fluid damper (118); wherein, for each

Art Unit: 3657

air suspension unit, the electronic controller is capable of controlling the valve to adjust a volume of air in the air spring in response to the ride height signal from the height sensor (abstract).

Regarding claim 9, see damper 118.

Regarding claim 18, Hovance discloses an air spring (fig 3), a height sensor (160, 126, 164, etc, col. 7, lines 13-35) for providing a ride height signal, a valve (136) and an electronic controller (22); and at least one fluid damper (118); wherein, for each air suspension unit, the electronic controller is capable of controlling the valve to adjust a volume of air in the air spring in response to the ride height signal from the height sensor (abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 7, and 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hovance (4817922) in view of Tokunaga (4586728).

Regarding claim 6, Hovance discloses as set forth above but is silent to the details of the damper. Tokunaga et al. teaches a damper with variable damping coefficient capabilities (figs 3-9).

Regarding claim 7, Tokunaga teaches control of the damper by an electronic controller (12).

Regarding claims 10-12, Hovance discloses as set forth above but is silent with regards to the vehicle. Tokunaga teaches wherein each wheel has an air suspension unit (fig 1).

Regarding claims 13-16, Hovance discloses wherein user control of the air bags while in motion are responsive to signals including height signals (160), as well as an array of environmental conditions (col. 1, lines 37-40 and 50-53).

Regarding claim 17, Hovance discloses as set forth above but is silent to the controllability of the controller. Tokunaga teaches a programmable microcontroller (55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the air spring of Hovance with the air spring of Tokunaga because additional control, i.e. the damper, allows for an adjustable system with regards to damping capabilities as well as the spring coefficients.

Conclusion

Art Unit: 3657

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ghirardi, Krauss, Heyring, Nordmeyer, Lutz, Ross, and Easter were all used during examination but were not relied upon for rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES K. HSIAO whose telephone number is (571)272-6259. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bradley T King/
Primary Examiner, Art Unit 3657

JKH

Application/Control Number: 10/574,464
Art Unit: 3657

Page 6